Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL F. BROWNING,
NEIL A. JOHNSON,
THOMAS R. RABER,
MELISSA L. MURRAY,
and
MARK G. BENZ

Appeal No. 1998-3276
Application No. 08/667,211

ON BRIEF

Before GARRIS, OWENS, and DELMENDO, Administrative Patent Judges.

DELMENDO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 1 through 8 and 10 through 12.[1] Claim 9, which is the only other pending claim, has

[1] In response to the final Office action mailed September 30, 1997 (paper 7), the appellants submitted an amendment under 37 CFR § 1.116 (1997) (paper 9) proposing changes to claims 1,

been withdrawn from further consideration pursuant to a restriction requirement. See 37 CFR § 1.142(b) (1959).

The subject matter on appeal relates to a method for forming a triniobium tin superconductor in a manufacturing environment or operation. According to the appellants, the invention is based on the discovery that the presence of iron in a manufacturing environment or operation limits the reaction kinetics and the critical current of triniobium tin. (Appeal brief, page 2.) Further details of this appealed subject matter are recited in illustrative claim 1 reproduced below:

> 1. A method for forming a triniobium tin superconductor during a manufacturing operation, comprising the steps of:
>
> passing an internally oxidized niobium-base substrate through a molten tin alloy dip during a manufacturing operation while controlling iron content in the dip to less than or equal to 125 parts per million by weight iron to coat the substrate with a sufficient amount of a tin alloy coating; and then reaction annealing the substrate with the tin alloy coating at about 900 - 1200°C in an inert atmosphere for a time sufficient to form the triniobium tin superconductor.

10, 11, and 12. The examiner indicated in an advisory action mailed December 8, 1997 (paper 10) that the amendment will be entered for purposes of this appeal. Notwithstanding the examiner's statement in the advisory action, we note that the amendment has not been clerically entered. We trust that the amendment will be properly entered on return of this application to the examiner's jurisdiction.

The examiner relies on the following prior art references as evidence of unpatentability:

Caslaw	3,661,639	May 9, 1972
Tachikawa et al. (Tachikawa)	4,323,402	Apr. 6, 1982
Benz et al. (Benz) (published UK patent application)	2 257 437 A	Jan. 13, 1993

Corporate Research and Development Technical Report 91CRD124 from L.E. Rumaner, General Electric Co., to M. Benz et al., General Electric Co. (June 1991).[2]

Four separate grounds of rejection are before us in this appeal. First, claims 1 through 8 and 10 through 12 on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Rumaner. (Examiner's answer, pages 3-5.) Second, claims 1 through 3, 5 through 8, and 10 on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Caslaw. (Id. at pages 5-6.) Third, claims 1, 4, and 6 through 8 on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Tachikawa. (Id.) Fourth, claims 1, 4, 6 through 8, and 10 on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Benz. (Id.)

[2] While this document appears to be an internal corporate memorandum, the appellants have not disputed its availability as prior art.

We reverse the aforementioned rejections for reasons which follow.

The examiner admits that the prior art references do not describe the content of iron contamination in the molten tin alloy dip. Nevertheless, the examiner alleges that "a process performed [for forming a triniobium tin superconductor] using a [molten tin alloy] dip which does not contain iron would fall within the limitations of the appealed claims." (Id. at page 4.) The examiner further states:

> [T]he examiner sees no reason to assume that an element [Fe] would be present in the prior art when that element is not discussed in the prior art and the prior art gives no suggestion or reason to believe such an element would be present. At the very least, the examiner's position is that any residual or impurity amounts of iron which could be present in the prior art tin dip...would be a very small amount, i.e. would be an amount within the range of 0-125 ppm as permitted by the language of the appealed claims. [Id. at pp. 6-7.]

The examiner's position is without merit. While unpatented claims must be interpreted by giving words their broadest reasonable meanings in their ordinary usage, taking into account the written description found in the specification, the interpretation of the claim language must be "reasonable in light of the totality of the written description." In re Baker

Hughes Inc., 215 F.3d 1297, 1303, 55 USPQ2d 1149, 1153 (Fed. Cir. 2000).

Here, the examiner fails to account for the claim recitations "during a manufacturing operation" (appealed claims 1 and 10), "in a manufacturing operation" (appealed claim 11), and "in a manufacturing environment" (appealed claim 12). As pointed out by the appellants (appeal brief, pages 7-8), the present specification contains written description which enlightens one skilled in the relevant art that these recitations limit the invention to "processes used in a factory or suitable place to manufacture quantities of triniobium tin for commercial use." (Specification, page 6, lines 7-11.) Under these circumstances, it cannot be said that the appealed claims include a process performed in a laboratory setting, such as that described in Rumaner. Even assuming that it would have been prima facie obvious for one of ordinary skill in the art to modify Rumaner's process for suitability in a manufacturing operation, the examiner has not pointed to any evidence that would have suggested to one of ordinary skill in the art that the amount of iron, which is said to be present in such a manufacturing

environment, should be controlled to less than or equal to about 125 ppm.

From our perspective, the lack of a teaching in the applied prior art references as to the content of iron contamination cannot serve as a substitute for the teaching, motivation, or suggestion needed to establish a prima facie case of obviousness. In this case, the examiner alleges that either iron is not present or is present in very small amounts in the tin alloy dips of the prior art. However, the examiner has not provided any evidence to refute the appellants' statement in the specification that significant amounts of iron contamination are present in a manufacturing environment or operation. Nor does the examiner point to any teaching, motivation, or suggestion in the prior art that would have led one of ordinary skill in the art to control the iron contamination to the levels as recited in the appealed claims.

Moreover, as pointed out by the appellants (appeal brief, pages 5-7, 9-10), none of the relied upon prior art references identify the same problem with which the appellants are concerned (i.e., the problem of iron contamination in a manufacturing

environment or operation), much less its solution. In re Sponnoble, 405 F.2d 578, 585, 160 USPQ 237, 243 (CCPA 1969) ("[A] patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. This is part of the 'subject matter as a whole' which should always be considered in determining the obviousness of an invention under 35 U.S.C. 103.").

For these reasons, we cannot uphold any of the examiner's rejections.

The decision of the examiner is reversed.

REVERSED

BRADLEY R. GARRIS Administrative Patent Judge	)	
TERRY J. OWENS Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ROMULO H. DELMENDO Administrative Patent Judge	)	

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